

The Impact of Big Data on E-Government

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Abstract

With the rapid development of big data, the management model of government will be greatly changed. Around the world, countries have introduced a variety of policies to deal with the development of large data. The Chinese government also attaches great importance to the big data industry. The impact of big data on E-government is mainly reflected in the changes of communication and management style, the change of social form, and the changes of social structure. To deal with the challenge of the large data, government should establish the comprehensive e-government platform, and collect data to analysed data in-depth. Only the integration and interaction of big data and administrative system reform, can get the challenge to the development.

Keywords

Big data; Electronic government affairs; Public management; Integrated government platform.

1. Introduction

The 21st century is an era of great development of data and information. Mobile Internet, social networks, e-commerce and so on have greatly expanded the boundaries and application of the Internet. Various kinds of data are expanding rapidly and become larger. The information society has entered the era of Big Data. Big data will be widely used in government public services, medical services, retail, manufacturing, as well as personal location services and other fields, and will produce huge social value and industrial space.

In the era of big data, e-government faces many challenges, such as the challenges of information disclosure, cross-sectoral data sharing and integration, social management, public services and so on. How to make use of large data resources, improve the service ability and prediction ability of the government, and strengthen the rational practice of the application of government affairs are important issues to be considered in the development of E-government in China.

2. Introduction to Big Data

Big data is a term now generally used by lay audiences to refer to data sets that are too large or complex for traditional data-processing application software to adequately deal with. Data with many cases (rows) offer greater statistical power, while data with higher complexity (more attributes or columns) may lead to a higher false discovery rate. Big data challenges include capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating, information privacy and data source. Big data was originally associated with three key concepts: volume, variety, and velocity. Other concepts later attributed with big data are veracity (i.e., how much noise is in the data) and value.

Through integration and sharing of information systems, governments build Big Data Platforms to improve the sharing of government information resources, and support the collaborative

management and service across layers, regions, departments, systems, and services between departments.

3. The Impact of Big Data on E-Government

Big data is becoming a resource, a factor of production, penetrating into all fields, the impact of big data on e-government, mainly in the following aspects.

(1) Changes in the mode of communication and management form a two-way management mode

Traditional social management is basically one-way transmission. The government publishes policies to the public, collects opinions, formulates policy changes, and implements policies. The public is mainly passive acceptance of policies.

In the era of big data, with the development of social media, the public requires active participation in social management. Whether the government consciously invites the public to participate or not, the public has gradually participated in social management through micro-blogs, the Internet and so on.

Therefore, in the era of big data, social management has become a two-way management mode. It is necessary for the government to adopt more open and active communication to collect information. The public expresses their opinions through certain channels, advises and suggestions, and participates in social management.

(2) Changes in social patterns require innovation in social management

The changes brought by the network society, such as social networks, have brought new challenges to the current social management, which requires the government to provide innovative services. Through the deep penetration and integration of information technology, service management functions and processes, new government services and management forms will be created. Through the development of information support ability and level, it can promote the improvement of government decision-making, management and service level, and promote the major transformation of social operation mode, work mode, lifestyle, organizational form and behavior.

(3) Changes in the social structure require the government to work together

In the new era, the government needs to carry out the reform of the Ministry of Commerce and establish a service-oriented government. This requires the establishment of a comprehensive platform for government affairs. This platform should not only be a comprehensive government information platform, but also be integrated with the government's management methods, and on this basis to create an organic whole. On the basis of new technology and large data analysis, the government's management mode should be changed to improve the management efficiency of the government.

4. E-government Development in the Era of Big Data

The government should study and deploy "big data" as early as possible, and it can start from the following aspects.

(1) Establishing an integrated government platform to effectively promote resource integration

At present, after more than ten years of government informatization construction, most of the core business of government agencies have completed different degrees of informatization, and the provision of network public services has been popularized in different depth. The ownership rates of ministries, provincial, prefecture level and county government websites were 96%, 100%, 98.5% and 83% respectively. A number of major e-government projects, such as Golden Pass, Golden Tax, Golden Shield, Golden Examination, Golden Letter, Golden Water, Golden Farmers and Golden Insurance, have played an important role. Government portal

websites at all levels have become one of the main channels for government affairs publicity, administrative affairs, complaints and consultation, and convenience services. Website group clicks show massive growth. Many information systems built by governments at all levels cover the main areas of government management and decision-making, such as macro-decision-making, economic regulation and control, market supervision, public services, urban management, and basically cover the core business of the government.

However, the information platform of each department is a unique system, and there is neither a unified collection standard nor interoperability. For example, the traffic bureau and the meteorological bureau, the statistical bureau and the Social Security Bureau and so on are not common, let alone the integration of data resources. Obviously, "data out of many doors" leads to "data islands". This situation is a serious violation of the original intention of government informatization. The reason for this is that the information centers of various departments in the past are basically a service-oriented organization; the main responsibility is to manage the network of business departments, virus killing clean. Second, different business departments have their own independent business system, and only their own department data are submitted, no longer to the higher level of the leadership. Third, because these data are produced in independent business systems, there is no correlation between data and data, and between different business systems.

Therefore, it is necessary to establish a comprehensive government platform including a unified network platform, a unified data platform and a unified service channel and means. A unified network platform means the connection between E-government and internal and external networks on the basis of ensuring safety. Unified data platform needs to establish a large centralized database, exchange and sharing platform, information resources catalogue, standards and other data center as one. Unified service channels and means require the government platform to realize the functions of government service center, government service hotline, street community service center, archives service center, citizen e-mail, social security card, public service terminal, and so on, to achieve one-stop management, one-network connectivity, one-card service.

The comprehensive government platform based on large data can truly bridge the gap of coordination within the government, greatly improve work efficiency and reduce the cost of government operation. Firstly, in addition to ideological and ideological obstacles, there are also some technical obstacles in government internal collaboration. With the development of large data technology, the government across systems, platforms, and data structures will technically enable the vertical and horizontal departments within the government to coordinate smoothly; secondly, because of the use of large data technology, the number of. The response time of acquisition, processing and analysis has been greatly reduced, and the work efficiency has been significantly improved. Under the comprehensive government platform, the phenomenon of information islands will be greatly reduced, so as to improve the efficiency of government agencies to work together and for private affairs, and enhance the government's social governance capacity and public service capacity.

(2) Building big data centers to collect data.

Building large data centers, strengthening the acquisition, organization, analysis and decision-making of government data, realizing the unified management of government information resources through cloud computing technology, and developing and utilizing government resources according to laws and regulations and the needs of various departments can improve the utilization rate of equipment resources, avoid duplicate construction and reduce the cost. Maintenance cost.

In addition to traditional e-government websites, information collection channels can also include mobile terminals, official Weixin, micro-blog, public service hotlines and so on. Mobile terminals can be used as a good platform for communication between the government and the

public. On the one hand, the government can publish information to the public, on the other hand, mobile terminals can also be used as administrative terminals. The staff of various departments can give feedback to higher departments or level departments for communication. Official micro-letters and micro-blogs have become the focus of public concern, we can consider to include micro-letters and micro-blogs in the comprehensive government affairs of the division platform. The public service hotline itself has undertaken a lot of information collection and supervision, and its growth rate is very fast. Now the trend of big city public service hotline is integration, integration can be integrated in two directions. Through online interaction, the public can become the node of the government process, so that the public can participate in policy formulation and implementation, effect evaluation and supervision, making it possible for the public to participate in politics and deliberation. In addition to listening to public opinion and resolving social conflicts on these social networks, the data generated on social networks can also help governments solve long-standing problems.

(3) improve the efficiency of government public administration combined with the analysis and excavation of government data.

Government departments have a large amount of information resources. In the era of large data, not only do they share these data, but also make use of large data resources to improve the government's service ability and forecast ability [7].

The United Nations Global Pulse project lists the analytical value of data, the relevance of data and policy, and the privacy of using personal data as possible problems in the "big data" era. Data analysis is the core of the whole big data processing process, because the value of big data comes from the analysis process. Data extracted and integrated from heterogeneous data sources constitute raw data for data analysis. Depending on the needs of different applications, all or part of these data can be selected for analysis.

Data mining can provide real-time and effective information needs. Government departments should give full play to the functions of the government, effectively monitor and manage, and at the same time, in order to enhance the timeliness of communication between the people and the government, timely grasp of effective information. Mining results can be used for analysis and decision making. Although the existing database system can efficiently realize the functions of data entry, query and partial statistics, it cannot find the relationship and rules in the data, and cannot predict the future development trend according to the existing data. Therefore, the government affairs system urgently needs to have an intelligent auxiliary decision support system.

With the improvement of data analysis capability, the positive effects of large data and government information opening will converge into a huge torrent, promote the further opening of government information resources, and more and more mature analysis practice and application and mining tools will enable the effective use and development of open information. Large data can improve the scientificity and accuracy of government decision-making; improve the ability of government forecasting and early warning and emergency response. More and more governments abandon experience and intuition and rely on e-government data analysis to make decisions. Now big data is beyond the traditional data analysis methods, not only can standardized and semi-standardized data analysis and mining, speech, charts and other can be deep mining and artificial intelligence processing. The in-depth and extensive application of big data will bring scientific and precise decision support to the government.

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